

A Critique of
ADF&G's Sept. 2014 report,
"Status and Outlook of Southeast Alaska's Unit 2 Wolves"

Larry Edwards, Greenpeace — January 9, 2015

The Alaska Dept. of Fish & Game's report on wolves in Game Management Unit 2 is dated September 2014, and was publicly released in December on the webpage for the Board of Game's January 2015 meeting in Juneau.¹ We urge the Board of Game to *dismiss* this report from consideration because of the report's many omissions and other problems, listed below.

It appears that the report was written to express a point of view rather than truly assess the "status" and "outlook" of wolves in Unit 2, those assessments being the purpose of the report as indicated in its title.

To be clear, we attribute the report's bias and other deficits to the Parnell administration's top-down and policy-driven — rather than fact-driven, science-based — approach to natural resource management. As discussed in item No. 2 below, this policy has greatly suppressed the ability of ADF&G's civil-service-level managers and the biologists they oversee to produce department comments (e.g. on federal projects) and reports that protect sustainability and use of Alaska's wildlife. ADF&G's Sept. 2014 GMU-2 wolf report was prepared during the Parnell administration.

Our critique:

1. Important reference material was overlooked: The report cites only 4 studies that are specific to Southeast Alaska. One of those studies, a report by ADF&G that is "in preparation," is unavailable to the public. Many highly relevant references specific to GMU-2 were overlooked.
2. Documented field observations were not considered: There is no mention of documented field observations specific to GMU2 wolves made by ADF&G and Forest Service staff in recent years. These observations' indication of a low population was not acknowledged or discussed, but should have been considered in evaluating the data that the report does present.

The field observations indicate that in 2012 and 2013 the wolf population in central GMU-2 was at a very low level (*see, e.g.,* Person & Larson 2013, appended below). Consequently, the report should have considered whether the *low end* of its estimated population range should be relied upon rather than the reports reliance on mid-range "point estimates."
3. The method for point-estimates was not disclosed: There are several statistical methods of making point estimates. The report does not disclose which one was used or why it was selected.
4. The increased GMU-2 land area basis is not transparent: The land area of GMU2 was revised upward nearly 7% in the report, in comparison to the land area used in prior GMU2 wolf studies. This has the effect of increasing the estimated GMU2 wolf population by 7% more than otherwise would have been estimated, and this adjustment to the land area is therefore an important metric. Although the report includes a map of which adjacent islands were or were not included in the new land area estimate, there is no disclosure about whether newly included islands are important wolf habitat and whether any adjustments that may have been made to GIS shoreline boundaries (e.g. by using more sample points around a curve) in fact are significant concerning wolf habitat. Does this boundary refinement merely thicken the rind on the watermelon?
5. An "outlook" for wolves is absent without an outlook for deer: The report's mention of the wolves' primary prey – deer – is only peripheral. However, it is obvious that the "outlook" for

¹ Webpage: <http://www.adfg.alaska.gov/index.cfm?adfg=gameboard.meetinginfo&date=01-09-2015&meeting=juneau>.
 Document: [http://www.adfg.alaska.gov/static-f/regulations/regprocess/gameboard/pdfs/2014-2015/Southeast 01 08 15/status outlook southeast unit 2 wolves 2014.pdf](http://www.adfg.alaska.gov/static-f/regulations/regprocess/gameboard/pdfs/2014-2015/Southeast%2001%2008%2015/status_outlook_southeast_unit_2_wolves_2014.pdf)

GMU2 wolves that the report *claims* to portray (see the title) is unreliable because the report entirely avoids discussing *the outlook for the primary prey*. The loss of high quality deer winter range in GMU2 on state, private and federal lands has been *huge*.² Further, due to the way second growth forests grow (i.e. forest *succession*), the impact to deer does not come into full effect until 30-40 years after logging. That is, there presently is a “succession debt” by which the impact of logging that was done as long ago as 1975 to 1985 is only now becoming evident, and there is also debt from more recent logging. Perhaps half of the impact of all past logging on Unit 2 deer winter habitat is not yet evident, but nonetheless those impacts are already committed.

6. Crucial for GMU-2, the effect of habitat loss in non-linear: Scientific literature specific to GMU2 but ignored in the report shows that as successive losses of deer habitat occur over time, the loss of carrying capacity is non-linear. For example, if successive losses of *equal* amounts of habitat are made, the result is *successively greater increments of loss of carrying capacity* for deer.

7. The report does not disclose annual wolf mortality or the assumed threshold of unsustainability: The report does not disclose ADF&G’s working assumption of what maximum total annual wolf mortality is sustainable and how that was determined, nor does it disclose annual mortality figures for GMU-2 as determined by field research. ADF&G’s assumption of a 38% unsustainability threshold (pers. comm.) is not disclosed. The only related statistic the report presents is that in the Person & Russell (2008) study “29% of their radioed wolves were killed” illegally (report at 4); however, *that figure is irrelevant* because it is not an annualized. The report nonetheless states that this 29% figure was used in crafting ADF&G’s recommendation that the GMU-2 harvest guideline be reduced to 20% of the population. Below, we demonstrate – by using the same reference documents that the report relied upon – that even Proposal 14’s proposed annual *reported harvest* guideline of 20% is unjustifiably high:

“Fuller (1989) suggests that a 35-percent rate of total mortality for wolves could result in declines. Other studies have reported populations declining when multiyear mortality ranged between 25 and 40 percent (Gasaway et al. 1983, Keith 1983, Peterson et al. 1984). **Wolves occupying islands (or other insular areas) in southeast Alaska will likely be more vulnerable to overexploitation simply because mortality cannot be readily compensated for by immigration from adjoining areas.**” (Person et al. 1996 at 10 (pdf-18), emph. added).

“Based on our analysis of birth rates and population size for wolves on Prince of Wales and Kosciusko Islands, we estimate the per capita birth rate for wolves to be approximately 0.33 (SE = 0.15). The buffering effects of immigration and emigration are probably limited for most of the wolves in southeast Alaska; consequently, total annual mortality should not exceed reproduction to maintain current population levels. **Thus, to maintain current population levels, a level of mortality (from all causes; including natural, legal, and illegal harvest) for wolves in southeast Alaska is likely to be less than or equal to 30 to 35 percent.**” (Person et al. 1996 at 27 (pdf-35), emph. added).

“Total mortality (natural, legal, and illegal harvest) in a sample of 19 radio-collared wolves from autumn 1993 to spring 1994 was 61 percent (SE = 11 percent); mortality in a sample of 13 radio-collared wolves from autumn 1994 to spring 1995 was 38 percent (SE = 13 percent) (Person and Ingle 1995; Person, in prep.). Lower mortality in the second year reflected a shift in trapping effort to the southern half of GMU 2, away from the study area. From these estimates, the most probable average annual mortality in the study area on Prince of Wales and Kosciusko Islands for June 1993 to June 1995 was 50 percent (SE = 13 percent, total sample for both years was 24 individual wolves).” (Person et al. 1996 at 9 (pdf-17), emph. added).

In a study with 55 radiocollared GMU-2 wolves: “Average annual rate of survival for all wolves was 0.54 (SE = 0.17) [**i.e. average annual mortality was 46%**]; however,

This includes: State Forest, the Tongass National Forest, and lands owned by several Native corporations, the University of Alaska, and the Alaska Mental Health Trust.

all pups included in that estimate were .4 months old. Therefore, actual survival within the wolf population sampled may have been lower. Average annual rates of mortality owing to legal harvest, **illegal harvest**, and *natural mortality* were 0.23 (SE = 0.12), **0.19** (SE = 0.11), and *0.04* (SE = 0.05), respectively.” (Person & Russell 2008 at 1545, comment & emph. added).

Putting this information in tabular form, with GMU-2 specific data in the leftward columns:

ANNUAL MORTALITY	'93 & '94 Seasons Study	Person & Russell 2008 Study	Proposal 14	GMU-2 Specific (Person et al. 1996)	Fuller '89 (not SE Ak)	Gasaway '83 Keith '83 Peterson '84s (not SE Ak)
Legal Harv.	◦	23%	20%	◦	◦	◦
Illegal Take	◦	19%	?	◦	◦	◦
Nat. Mort.	◦	4%	?	◦	◦	◦
Total Mortality	50% (Range 38-61)	46%	?	◦	◦	◦
Sustainability Threshold	→	→	→	≤ 30% - 35%	35%	25% - 40%

To put this in perspective, the total annual mortality resulting from Proposal 14 could well be in excess of 40%. The best available estimate of the maximum sustainable annual mortality for Unit 2 is *at most* 30-35%, and the right-most column suggests it could credibly be as low as 25%. As noted in the quoted material above, the sustainability threshold for GMU-2 is probably at the low end of the ranges because the population is known to be isolated.

The ADF&G report fails to provide a rational assessment of wolf status and outlook or the effect of Proposal 14. In contrast, Proposal 13 would direct ADF&G to take all causes of mortality into account and fit all human take within a 30% allowance. However, in retrospect and to better ensure sustainability, the *total human take* should fit with at most a 21% allowance (the 25% in the right-most column, less 4% natural mortality).

8. Wolf sustainability concerns were concealed: The report fails to disclose legitimate concern over the sustainability of the GMU-2 wolf population. At the November 2010 Board of Game meeting, the GMU-2 assistant area biologist gave the area report, and testified that:

“The department does have concerns with the long-term sustainability of our Unit 2 wolf population. We have seen significant declines in the harvest, from a high of 131 to 18 wolves last year. We’ve seen a substantial reduction in wolf sign, including scats, tracks and I talked yesterday about denning activity and how Mr. Person has visited all 11 of his known den sites and there was no activity at any of those. And also we’ve talked [earlier in the meeting] about illegal snares after the season is closed.” (Bethune testimony in official board meeting recording).

In August 2013, Dr. Dave Person wrote a formal declaration on his expectations of the impact of the Big Thorne timber project (in central Prince of Wales Island) on wolves. ADF&G is aware of his declaration. He noted his estimate that in earlier years the project area could support 45 – 50 wolves, or three full separate packs and a portion of a fourth pack. (Declaration at ¶17). However, in 2009 and 2010 he found “very few signs of wolves” as shown by an absence of denning activity in eleven known dens, an absence of activity on wolf trails and a substantial decline in scat counts relative to previous studies. (Id. at ¶16). In the fall of 2012, Person estimated that there were approximately 29 wolves in the Big Thorne project area and just one full pack. (Id. at ¶18). Trappers legally killed 15 wolves in the Big Thorne project area during the 2012 hunting season. (Id. at ¶19).

By the spring of 2013, however, Person could only account for six or seven wolves remaining in the Big Thorne project area. (Id.). The number of packs in the area has also declined from five wolf packs to two packs. (Id. at ¶16 & 18). The two remaining packs are in jeopardy – one pack is so small that it appears to be struggling to raise a litter of pups. (Id. at ¶18). The larger pack only had two breeding females, who were both killed in 2012. (Id. at ¶18). As part of an ADF&G Division of Wildlife Conservation study, Person and Kristian Larson issued a progress report covering January 1, 2013 through May 31, 2013 (appended to this critique), and reported a population estimate from a study area that encompassed the central Prince of Wales Island wildlife analysis areas:

“Through visual counts via aerial telemetry, we were able to determine a minimum population of 21 wolves in the study area. Motion cameras and ground observations seemed to corroborate the estimate. However, because we know from previous work that we should allow for extra-territorial wolves or dispersers that are not associated with any of the three established packs, it is likely that the actual wolf count in our study area was closer to 24 during the estimation period.” [Person, D. & Larson, K. 2013 at 2].

The progress report then indicates an 80% over-winter (*i.e. less than annual*) mortality:

“At least 13 wolves were legally harvested from the study area. In addition, 3 legally-harvested wolves were located near the border of the study area or the capture locations were too vague to determine where the animals were actually taken. At least two more wolves were taken illegally (one radiocollared wolf killed and left on a beach and one unreported road kill) for a total of 18 human-caused deaths. We have two missing radiocollars. If these animals were trapped [or shot], it would bring the mortality up to 20 wolves. From our estimate of 21 – 24 wolves inhabiting the study area, a winter and spring mortality of 18-20 would equate to *about 80% over-winter mortality rate.*” [Id., *emph. added.*].

9. Constitutional duty was not squarely addressed. Although the report highlights ADF&G’s duty under Article VIII of the Alaska Constitution to “ensure that sustainable numbers of wolves are maintained” (report at 4), it does not disclose the above succession debt and non-linearity and does not evaluate the *outlook* for wolves and their primary prey in that light.

10. The Constitution does not provide the flexibility the report claims: The report claims more management flexibility than Article VIII of the Alaska Constitution provides. The report says:

“The challenge facing ADF&G (as the wildlife manager), the USFS (as the land manager), and the state and federal regulatory bodies (e.g., BOG and Federal Subsistence Board (FSB)) *is determining what level of sustainability to manage for.*” (Report at 4).

and

“... ADF&G must ensure that sustainable numbers of wolves are maintained ... [involving] the question of sustainable wolf population levels, *with an associated acceptable level of risk.*” (Id.).

However, the only flexibility Article VIII allows for sustained yield management is that the requirement be “subject to preferences among beneficial uses.” That is, the yield either is sustainable or it isn’t; but the amount of take that is sustainable may be allocated among users. There are no “levels” of sustainable management — management either is sustainable or it isn’t. Of course in management there are always risks that the outcome will be adverse to the resource being managed. However, the second quotation begs the question of what “level of risk” the department would consider “acceptable.” Article VIII does not accommodate management that has more than a *negligible risk* of not being sustainable.

12. The report’s reliance on Proposal 14 is no remedy: The report relies on ADF&G’s submission of Proposal 14 to the Board of Game, for consideration in January 2015, as an alleged remedy for the high illegal take of wolves in GMU2 (report at 4), which to date has been unaccounted for in

the management of Unit 2 wolves. However, Proposal 14 has faults that would prevent it from serving as a remedy. These faults are discussed in detail in our comment letter PC006 (in RC004) for the Board's January 2015 meeting.

In contrast, our Proposal 13 would deal with the problem comprehensively and transparently. Both proposals were submitted in May 2014, well in advance of the report's September 2014 cover date. Nonetheless, ADF&G's Proposal 14 is not discussed comprehensively in the report, and our Proposal 13 isn't mentioned at all. Needless to say, the report provides no comparison of the two proposals' approaches to the problem.

In Conclusion

- (1) The Board of Game should *dismiss* ADF&G's September 2014 report on GMU-2 wolves.
- (2) Responsibility for the report's many deficits are attributable to the Parnell administration's "one-voice" policy and Gov. Parnell's political appointees at ADF&G, not to the lower level managers and biologists. This policy has suppressed science statewide (particularly in Southeast), and has resulted in policy-driven instead of fact-based state comments (e.g. on federal timber sale EISs) and ADF&G reports such as this one. The *one-voice* policy and the ethical, management and resource problems it has caused are described in RC004, at PC006 pp.34-53.
- (3) There are several key scientific documents specific to GMU-2 wolves that should have been considered in the report, and ADF&G is or should be familiar with all of them. One such document is a joint ADF&G / US Forest Service report that received substantial review at ADF&G before publication: Person & Logan (2012)(ADF&G/DWC/WRR-2012-06), "A *spatial analysis of wolf harvest and harvest risk on Prince of Wales and associated islands, Southeast Alaska.*" Another such document, a research progress report that includes field observations (Person & Larson 2013),⁷ is attached below. It documents the 80% wolf mortality in the same study same area that is covered in ADF&G's September 2014 report.
- (4) Therefore, *please disregard ADF&G's September 2014 report.*
- (5) Proposal 14 should *not* be adopted. Also, based on the table and analysis above, even though Proposal 13 considers all causes of mortality, its 30% allowance for all human-caused mortalities is too high (see discussion above). According to best available information, the threshold of unsustainability is likely a total mortality at most in the range of 30-35% of the population, and (based on study elsewhere) may be as low as 25%. Of this, a natural mortality of at least 4% needs to be taken into account. Proposal 13 should be amended accordingly.

But that said, we closely agree with the comment of Homer biologist Duane Howe (RC004, PC068) that "When the number of wolves is not known to be more than a few hundred animals it makes no sense to reduce the population any further, especially when the number of other losses such as poaching and natural mortality can [not] be controlled. Accurate population numbers and natural annual population losses must be arrived at before any reduction of numbers should be allowed." (Emph. added). **Proposal 13 was the most we thought the board might agree to, but Howe's perspective is clearly the correct one — and we request now that Proposal 13 be amended to close the season on wolves in GMU-2.** Risk to this geographically isolated population is simply too high given the apparent low population, paucity of quantitative data, long-existing management difficulties, and the conservation concern for GMU-2 wolves dating back to the 1980s.

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Attachment: Person & Larson (2013).

⁷ "Developing a method to estimate abundance of wolves in Southeast Alaska. Progress Report: 1 January 2013–31 May 2013." Submitted to the Forest Service by Rod Flynn, ADF&G.

DEVELOPING A METHOD TO ESTIMATE ABUNDANCE OF WOLVES IN SOUTHEAST ALASKA

PROGRESS REPORT: 1 JANUARY 2013–31 MAY 2013

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Cooperators
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USDA Forest Service
Tongass National Forest

BACKGROUND

This report covers study activities from midwinter (1 January 2013) through present (31 May 2013). The study is supported by the Alaska Department of Fish and Game (ADF&G) and U. S. Forest Service (USFS) contract AG-0116-C-09-0054. This report was written to satisfy contractual requirements for both the State of Alaska and the USFS.

The study area consists of a roughly 1,200 km region that encompasses the central Wildlife Analysis Areas (WAAs) of Prince of Wales Island (POW), an area that starts from Naukati, east to Coffman Cove, south to Thorne Bay, west to the Staney Creek headwaters, and north again to Naukati about 75 km west of Ketchikan, Alaska.

PRELIMINARY RESULTS

DNA Work

By midwinter, 125 of the wolf samples collected from the project had been sent to the USFS Rocky Mountain Genetics Laboratory (Dr. Mike Schwartz) in Missoula Montana for genotyping. The genetic samples consisted of 67 from hair boards distributed in the POW study area during the autumn (44 samples suspected from wolves and the rest a mix of bear, dog, marten, and perhaps other species), 1 sample from a road-killed wolf, 8 samples from the captured wolves, 10 samples from Gravina Island (bear, from sampler prototype tests in midsummer), and 40 late winter samples from harvested wolves. Of the 67 hair samples collected from the hair boards, over 70% were successfully genotyped. Final results are pending.

Over-winter Tracking

During 2012, we captured 8 wolves (1 juvenile, 7 adults), and we radiocollared the 7 adults with spread-spectrum, global position system (GPS) radiocollars that obtain a location every 6 hours. Through midwinter and into early spring, we flew once a month (31 December 2012, 21

February 2013, 4 March 2013, 11 April 2013, and 6 May 2013) to retrieve downloads, try to get visual observations of wolves and track their activities.

Through visual counts via aerial telemetry, we were able to determine a minimum population of 21 wolves in the study area. Motion cameras and ground observations seemed to corroborate this estimate. However, because we know from previous work that we should allow for extra territorial wolves or dispersers that are not associated with any of the three established packs, it is likely that the actual wolf count in our study area was closer to 24 during the estimation period.

By the end of March 2013 (the end of the POW wolf trapping season), we were aware of 2 radiocollared wolves legally harvested. In addition, one radiocollared wolf was killed and left, and one more vanished and its whereabouts is unknown. By early May, we had lost the last collared wolf, a female, in the Honker/Ratz area. Her ultimate fate is unknown, though we determined that she spent almost a week next to a campground on Balls Lake before disappearing. The two remaining active radiocollars are on wolves collared in the Stanley Creek area. One of those wolves, an adult male, left Stanley Creek in midwinter and has been living on his own in the vicinity of Shaheen and Winter Harbor (outside our study area). The other collared wolf, a young female, bred and is currently dened in the Stanley Creek area (Fig. 1-3).

Spring Trapping

On April 20, we traveled to POW to start the spring capture session. The capture crew consisted of Ray Slayton (USDA) and Kris Larson (ADF&G). Between 22 April and 21 May 2013, we had up to 64 traps set for wolves in the study area. The traps were set for a combined 1,375 trap nights. We caught no wolves during this session, though we had one wolf pull out of a trap and we had two instances where wolves stepped on traps, but didn't set them off (standing on a jaw or spring, but not on the pan).

By comparison, during spring 2012, we set 26 traps for a combined 356 trap nights and caught 4 wolves. The major difference between this spring and last spring appears to be numbers of wolves. Three of the five radiocollared wolves in the Honker Divide and Ratz Harbor area were definitely killed while the other two vanished (one in November during the height of the deer hunting season and the other in May after hanging around an active campground for almost a week).

At least 13 wolves were legally harvested in study area. In addition, 3 legally-harvested wolves were located near the border of the study area or the capture locations were too vague to determine where the animals were actually taken. At least 2 more wolves were taken illegally (one radiocollared wolf killed and left on a beach and one unreported road kill) for a total of 18 human-caused deaths. We have 2 missing radiocollars. If these animals were trapped, it would bring the mortality up to 20 wolves. From our estimate of 21-24 wolves inhabiting the study area, a winter and spring mortality of 18-20 would equate to about 80% over-winter mortality rate.

We know from observations and motion cameras that there are still a few wolves in the study area. We have a 2-year old female that had her first litter of pups this spring. We know from

cameras near her den that she has at least 5 pups in her litter and another wolf is known to show up about twice a week (Fig. 4).

We also know from observations, motion cameras, and telemetry that there were at least 3 or 4 wolves in the Honker Divide and Ratz Harbor area at the beginning of the trapping session. However, we lost the only radiocollared wolf in the area in early May. Camera traps showed two uncollared wolves on one occasion and tracks in a snowy pass showed two wolves on two different days had walked over the pass. Also, there were some indistinguishable tracks in a sand pit that suggested three or four other wolves had traveled through the area.

To the north, around Sweetwater Lake, there appears to be a pack of wolves. We found sign around our northernmost set and tracks on a trap there indicate wolf activity in an area outside the Honker, Ratz, and Staney territories. Wolf activity was sporadic around this location, but may indicate a pack that has localized somewhere further away and is not visiting that location very often.

Bears and deer were a surprising source of frustration during the spring capture events. We had many deer investigate traps. Some got caught and others pulled out; none were killed. The bears were worse. They dug up sets in muskegs on a daily basis, though they rarely set off traps. Typically, the bears would dig up the traps and toss them aside. Occasionally the bears would investigate the trap transmitters. Sometimes they took interest in the trap toggles and hauled set traps away with the toggles still engaged, and then proceeded to chew the toggles to splinters (never having set the traps off). We observed that bears ate the moss that had soaked up some of the coyote urine that we used for lure.

FUTURE WORK

Telemetry flights will continue on a monthly basis (or more frequently) through the summer. We are keeping several motion cameras deployed in key areas on POW throughout the summer to monitor wolf movements. Our traps will be re-boiled and the trap transmitters washed with odorless soap and stored in evergreen boughs until redeployment.

Trapping and collaring efforts will also resume in September. By autumn, pups should be large enough to travel and be susceptible to capture. At the same time, we will increase our telemetry flights in an effort to establish minimum pack sizes in our study area. This may be difficult if we have in fact lost our last collared wolf in the Honker Divide and Ratz Harbor area. The hair boards will be deployed in September as well, though they won't be lured until October. We want the hair boards to weather and naturalize for a few weeks prior to beginning to collect wolf hair samples. Having them pre-deployed will help speed the transition from trapping to hair snaring as well.

Submitted by:

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Figure 1. Five wolf pups (nearly five week old) at den entrance on May 20, 2013. Five is the average number of pups in litters in our study area.



Figure 2. Wolf pups at the den entrance on 20 May 2013.



Figure 3. Two year old female, first time breeder, standing outside the den on 20 May 2013.



Figure 4. Uncollared wolf visiting the active den on 12 May 2013. Photos indicate that this wolf was showing up at the den site about twice a week.